USGS
science for a changing world

Nonmetallic Mineral Products Industry Indexes

April 2005

This report analyzes and explains the USGS's monthly leading and coincident indexes for the nonmetallic mineral products industry (NAICS 327). This industry was classified as the stone, clay, glass, and concrete products industry (SIC 32) under the Standard Industrial Classification system, which has been replaced by the North American Industry Classification System. Henceforth, the industry will be referred to as the nonmetallic mineral products industry. This industry processes certain industrial minerals, minerals that are neither metals nor fuels, into useful products. More than 50 percent of the total value of these products is shipped to the highly cyclical construction industry. The indexes have been computed for each month back to 1948 and are available on the World Wide Web at: http://minerals.usgs.gov/minerals/pubs/imii/scghist.txt

Analysis

The leading index fell 0.8% to 206.2 in March from 207.8 in February, and its 6-month smoothed growth rate settled at zero, down from 1.8% in February. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. A growth rate above +1.0% is usually a signal of future growth in industry activity, while a growth rate below -1.0% points to a decrease in activity.[1] The declining leading index growth rate is suggesting that activity growth in the nonmetallic minerals industry will likely slow further in the months to come.

Three of the leading index's four indicators decreased in March, and one increased. A shorter average workweek in the nonmetallic mineral products industry contributed -0.5 percentage points to the net decrease in the leading index. New housing permits issued decreased for the second month in a row in March, holding the index down 0.3 percentage points. A drop in the S&P stock price index for building products companies contributed another -0.2 percentage points. In contrast, the yield spread between the U.S. 10-year Treasury Note and the Federal Reserve's federal funds rate broadened for the first month in nearly a year, contributing 0.2 percentage points to the index in March (table 2).

The coincident index, which measures current industry activity, decreased 1.1% to 149.1 in March from a revised 150.8 in February, and its 6-month smoothed growth rate moved into negative territory, dropping to -0.3%, from a revised 2.7% in February.

Explanation

The USGS uses the same methodology for the nonmetallic mineral products indexes that it uses for the metal manufacturing indexes in the *Metal Industry Indicators*. This methodology consists of constructing and tracking, each month, two composite indexes of diverse economic indicators. The composite leading index for nonmetallic mineral products signals, several months in advance, major changes in current economic activity as measured by a composite coincident index. The construction of the leading and coincident indexes follows well-established procedures for the analysis of cyclical indicators that were developed at the National Bureau of Economic Research, the U.S. Department of Commerce, and the Center for International Business Cycle Research.

Coincident indicators

The indicators selected to represent current activity in the coincident index for the nonmetallic mineral products industry are industrial production, the value of shipments in 1982 dollars, and total employee hours worked. Previously, these indicators reflected activity in the stone, clay, glass, and concrete products industry (SIC 32). The source agencies for these data, the Bureau of Labor Statistics, U.S. Census Bureau, and the Federal Reserve Board have completed their conversions to the NAICS. These indicators now reflect activity in the nonmetallic mineral products industry (NAICS 327). According to BLS, approximately 99% of the employment in NAICS 327 was classified in SIC 32.

Leading indicators

Leading indicators represent various economic activities that can point to near-term changes in industry activity. The following

[1]The 6-month smoothed growth rate is a compound annual rate based on the ratio of the current month's index to its average level during the preceding 12 months.

four indicators proved to be reliable at signaling major changes in economic activity in the nonmetallic mineral products industry: 1) average weekly hours worked in the nonmetallic mineral products industry; 2) an index of new private housing units authorized by building permits in the United States; 3) the Standard & Poor's stock price index for building products companies; and 4) the yield spread between the 10-year Treasury Note interest rate and the federal funds interest rate. The composite leading index constructed from these indicators turned before the coincident index at every trough and at 89% of the peaks. Although the leading index did not lead the coincident index at every peak, the average leads at troughs and peaks were 8.1 and 9.4 months, respectively, for an overall lead of 8.8 months.

This report was produced at the U.S. Geological Survey (USGS) by the Minerals Information Team. For more information about these indexes, contact Gail James (703-648-4915), e-mail (gjames@usgs.gov).

The USGS also produces *Mineral Industry Surveys* (MIS) for virtually all industrial minerals important to the U.S. economy. These include MIS for Cement, Clays, Crushed Stone, Dimension Stone, and Construction Sand and Gravel. Information on how to access these reports is available on the World Wide Web at: http://minerals.usgs.gov/minerals/pubs

Tables and charts follow.

Table 1.
The Nonmetallic Mineral Products Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2004				
April	204.8	6.6	147.8	6.8
May	205.2	5.8	147.2	4.9
June	204.5	4.1	147.0	4.0
July	206.7	5.2	148.6	5.3
August	205.8	3.3	149.5	5.6
September	206.8	3.6	149.2	4.5
October	206.9	2.9	149.9	4.5
November	207.0	2.4	150.5	4.6
December	208.1	2.9	152.2r	5.9r
2005				
January	206.9	1.4	150.6r	3.0r
February	207.8	1.8	150.8r	2.7r
March	206.2	0.0	149.1	-0.3

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 2.
The Contribution of Nonmetallic Mineral Products Index Component to the Percent Change in the Index from the Previous Month

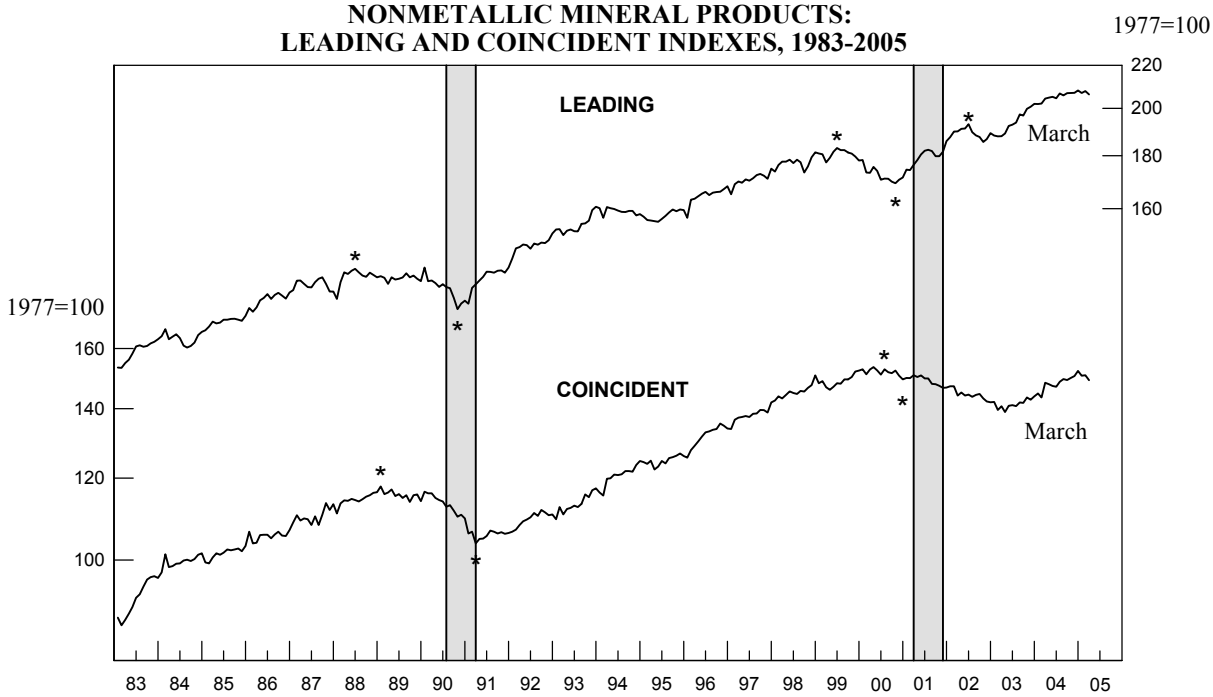
Leading Index	**February**	**March**
1. Average weekly hours, nonmetallic mineral products (NAICS 327)	0.2	-0.5
2. Index of new private housing units authorized by permits	-0.1	-0.3
3. S&P stock price index, building products companies	0.5	-0.2
4. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.3	0.2
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.4	-0.7
Coincident Index		
1. Industrial production index, nonmetallic mineral products (NAICS 327)	0.3r	-0.5
2. Total employee hours, nonmetallic mineral products (NAICS 327)	-0.1	-0.8
3. Shipments of nonmetallic mineral products (NAICS 327)	-0.2	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.1r	-1.2

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, Federal Reserve Board, Conference Board, and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 3 of the leading index.

r: Revised NA: Not available

Chart 1.

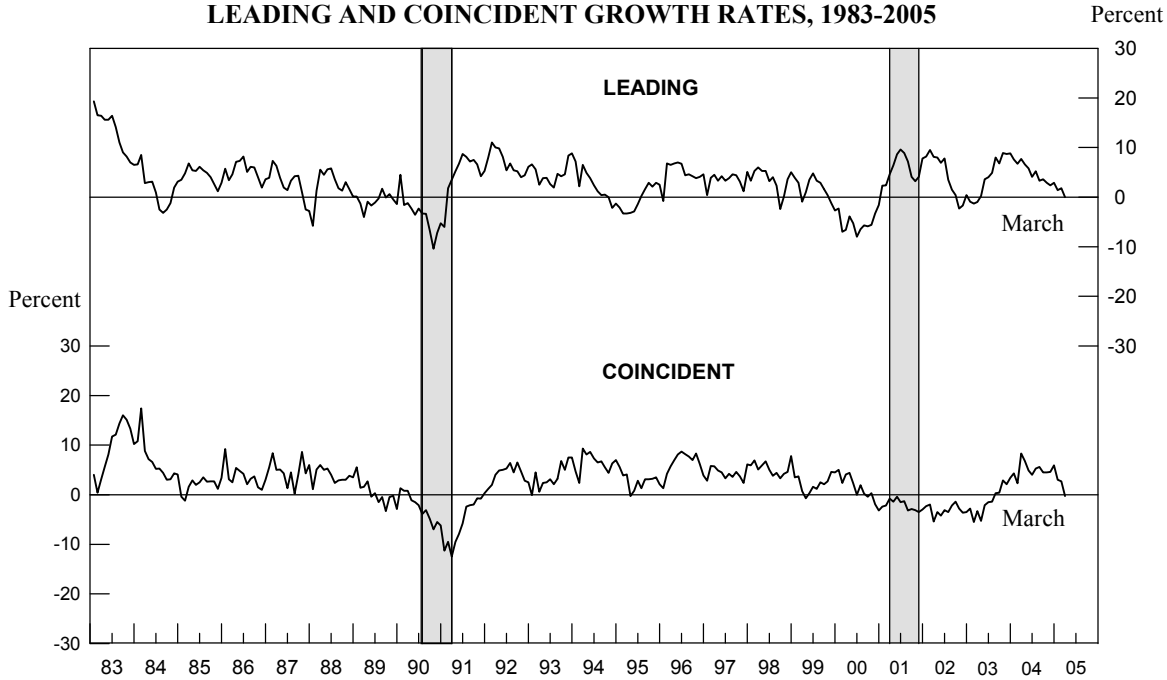
NONMETALLIC MINERAL PRODUCTS:
LEADING AND COINCIDENT INDEXES, 1983-2005



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes. More than 50% of the value of shipments of nonmetallic mineral products is used in the construction industry.

Chart 2.

NONMETALLIC MINERAL PRODUCTS:
LEADING AND COINCIDENT GROWTH RATES, 1983-2005



Shaded areas are business cycle recessions. The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.